

# Creating the Resilience Community in GeoPlatform

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Joint HIFLD Feedback Session/ GeoPlatform Community Meeting

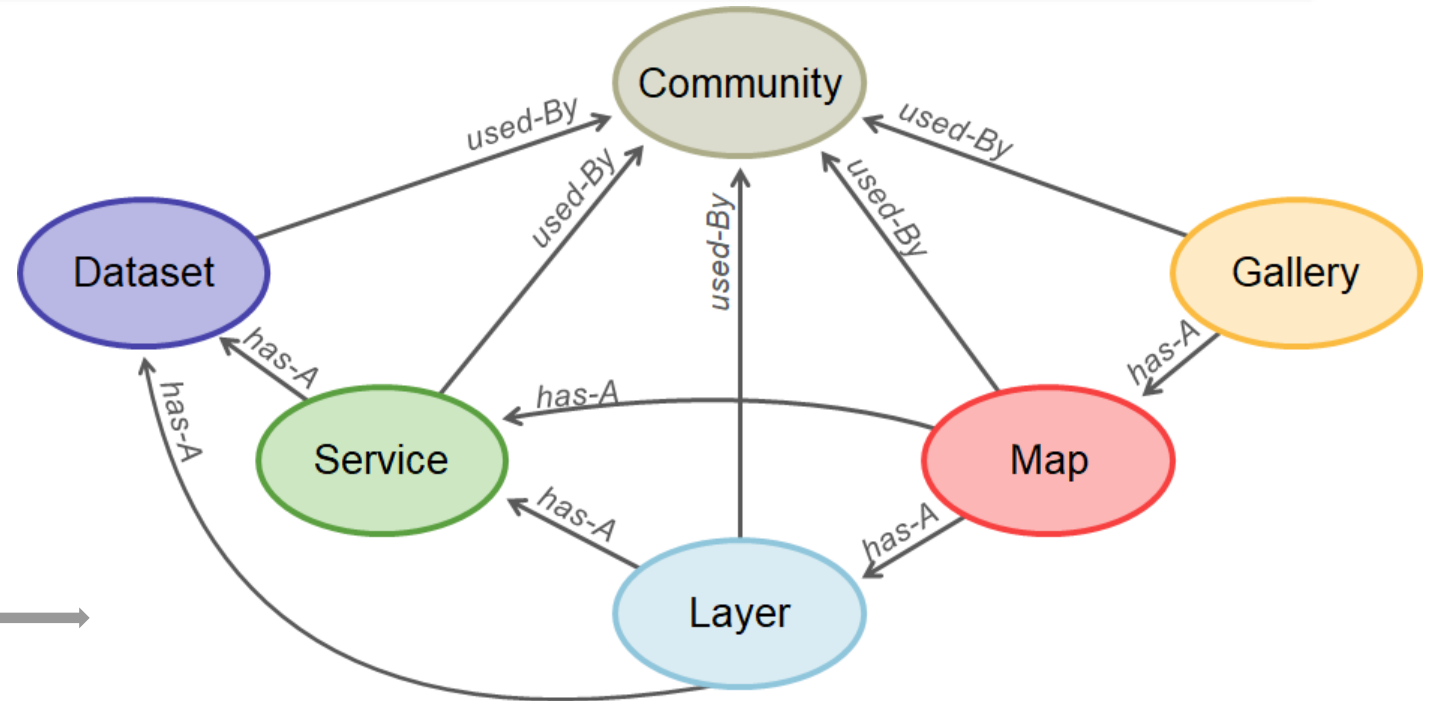
- 29 October 2019 -



# GeoPlatform Community Object

The GeoPlatform.gov portfolio model provides support for multiple geospatial objects including datasets, services, layers, maps and galleries.

- Related objects can be linked in GeoPlatform



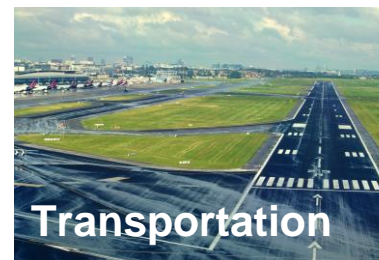
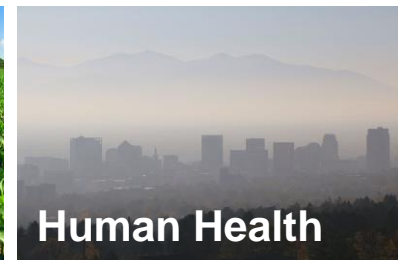
GeoPlatform also supports **communities**; designed to be a “multi-agency workspace for sharing data and information about topical or event based occurrences of national and regional significance”.

- This presentation will describe the process of creating the Resilience Community in GeoPlatform and subsequent best practices/ lessons learned.



# Climate Data Initiative (CDI)

- Included the launch of a climate-focused section of Data.gov (data.gov/climate) on March 19, 2014
- Data collection composed of approximately 700 freely available federal datasets curated by subject matter experts into 9 thematic areas →
- NASA was appointed as the lead agency in developing the Climate Data Initiative web presence
- NASA continues to maintain the collection and provide periodic updates as needed
  - See [Ramachandran et al. 2016](#) in *Computers & Geosciences*



# Beyond Data.gov

Data are increasingly served through a variety of web services (e.g., Esri REST, OGC, OPeNDAP)

>>> Hundreds of services were curated into the CDI collection, but Data.gov does not highlight services as a concept (hidden in metadata)

>>> In order to expose the CDI collection to a new and growing user community, IMPACT has partnered with GeoPlatform to develop the Resilience Community.

- The Resilience community serves as an interactive, topically-focused web portal that further promotes and shares **CDI web content**, and **provides access to CDI datasets, services, maps, and other tools relevant to global resilience and change.**



# Building a Community in GeoPlatform

Step 1:

Request to create a community:

<https://www.geoplatform.gov/resources/communities/>

## REQUEST A COMMUNITY

If you need a place to collaborate between multiple agencies on a topic or even of interest, then use the form below to request a GeoPlatform Community Space.

Community Request Form

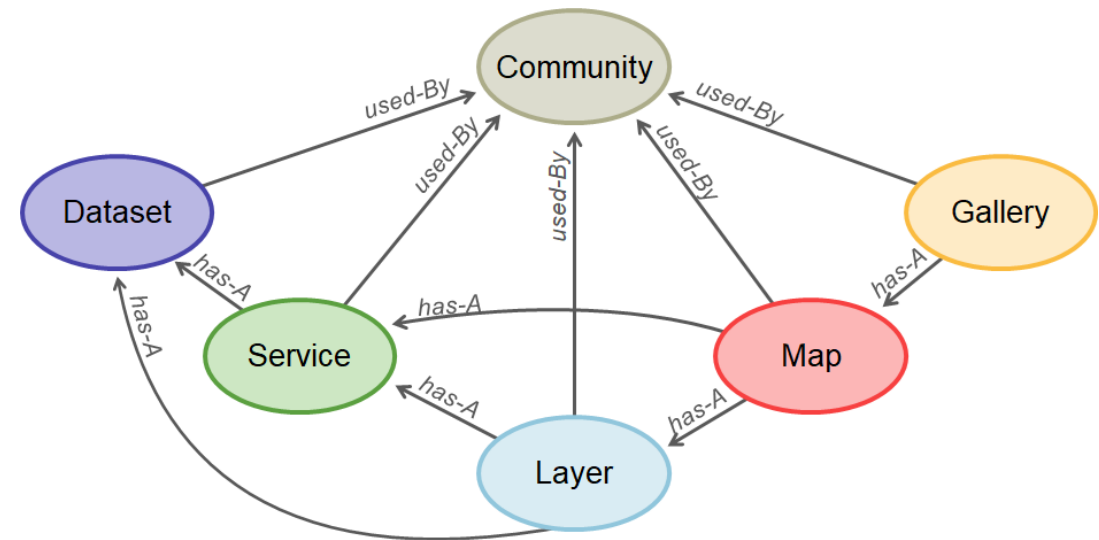


# Building a Community in GeoPlatform

## Step 2:

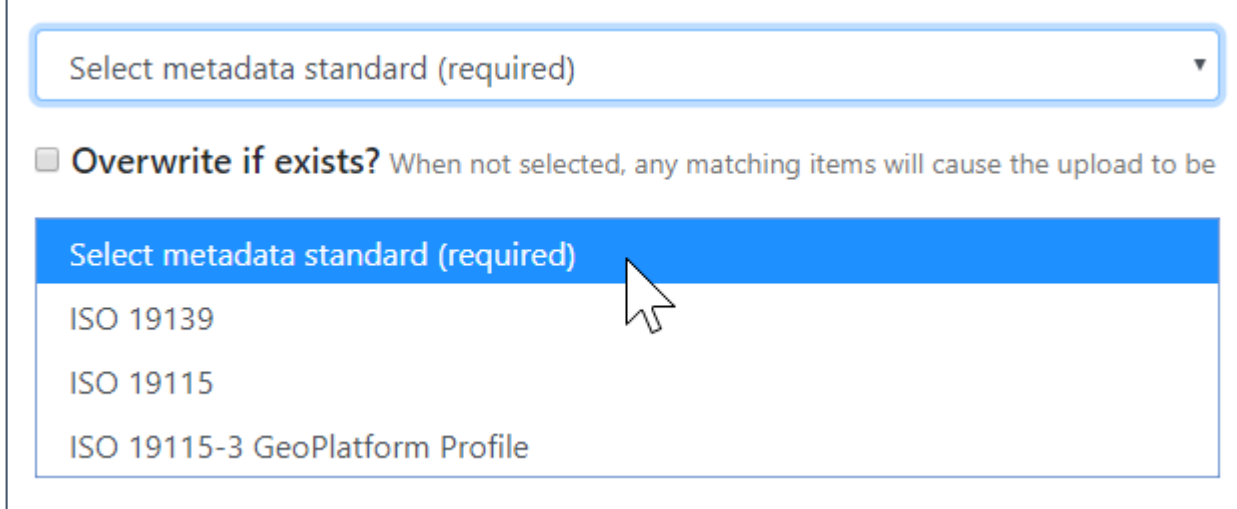
Identify objects to include in your community (datasets, services, layers, etc.)

- Bring objects into your GeoPlatform Community
  - Manually using Object Editor
  - Via an automated harvest source set up in collaboration with GeoPlatform
- Link related objects using Object Editor (e.g. identify related services, layers, maps etc.)



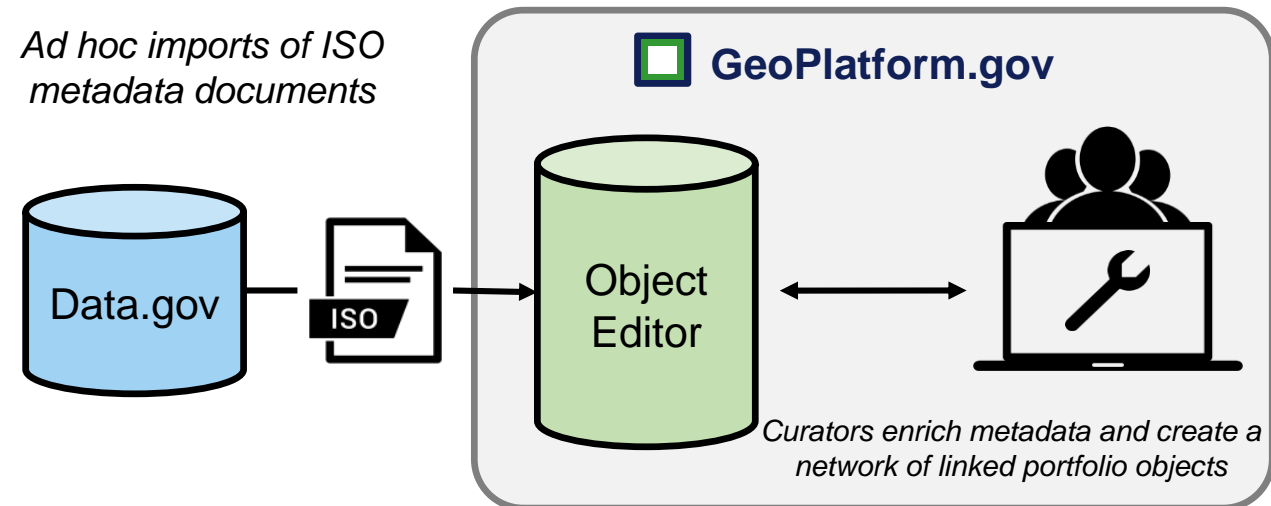
# Resilience Community Objects

- ISO 19139 metadata records for each CDI dataset were imported from Data.gov into GeoPlatform.
- Resilience Community curators used GeoPlatform's portfolio curation tool, **Object Editor**, to establish a network of linked portfolio objects (datasets, services, layers, etc.)
- The most critical curatorial step was the tagging of objects with the CDI theme tags.
  - The tags are registered in the GeoPlatform as SKOS concepts and aid users in filtering the collection.



The screenshot shows a web interface for selecting a metadata standard. At the top is a dropdown menu labeled "Select metadata standard (required)". Below it is a checkbox labeled "Overwrite if exists?" with a note: "When not selected, any matching items will cause the upload to be". Below the checkbox is a list of options: "Select metadata standard (required)" (highlighted in blue), "ISO 19139", "ISO 19115", and "ISO 19115-3 GeoPlatform Profile". A mouse cursor is pointing at the first option in the list.

*Ad hoc imports of ISO metadata documents*

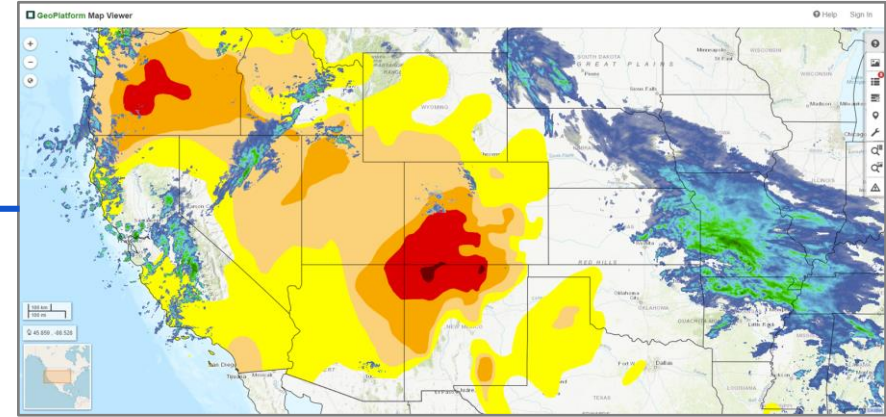






Objects can be tagged with other keywords and taxonomies, such as the Global Change Master Directory (GCMD), increasing discoverability among different user topics.

GeoPlatform's unique applications, such as the GeoPlatform Map Viewer, allows users to create stunning maps and tools to share amongst their colleagues using Resilience community data.



**Figure 4:** Drought and rainfall conditions across the conterminous United States.

## RESILIENCE PORTFOLIO

35 datasets in the Resilience community overlap with the National Geospatial Data Asset (NGDA) Portfolio as part of the FGDC.



'Related Resources' for each object can be curated to include relevant assets, including similar datasets.

### RELATED RESOURCES (3) ^

[Global Annual PM2.5 Grids from MODIS, MISR and SeaWiFS Aerosol Optical Depth](#)  
Detailed user's guide and documentation regarding the Global Annual PM2.5 Grids from MODIS  
**Role:** information

[Dataset Landing Page](#)  
The unique landing page for the dataset Global Annual Average PM2.5 Grids from MODIS at SEDAC.  
**Role:** information

[Socioeconomic Data and Applications Center \(SEDAC\)](#)  
Homepage for the SEDAC NASA Data Center.  
**Role:** information

 **474**  
Datasets

 **152**  
Services

 **1065**  
Layers

 **14**  
Maps

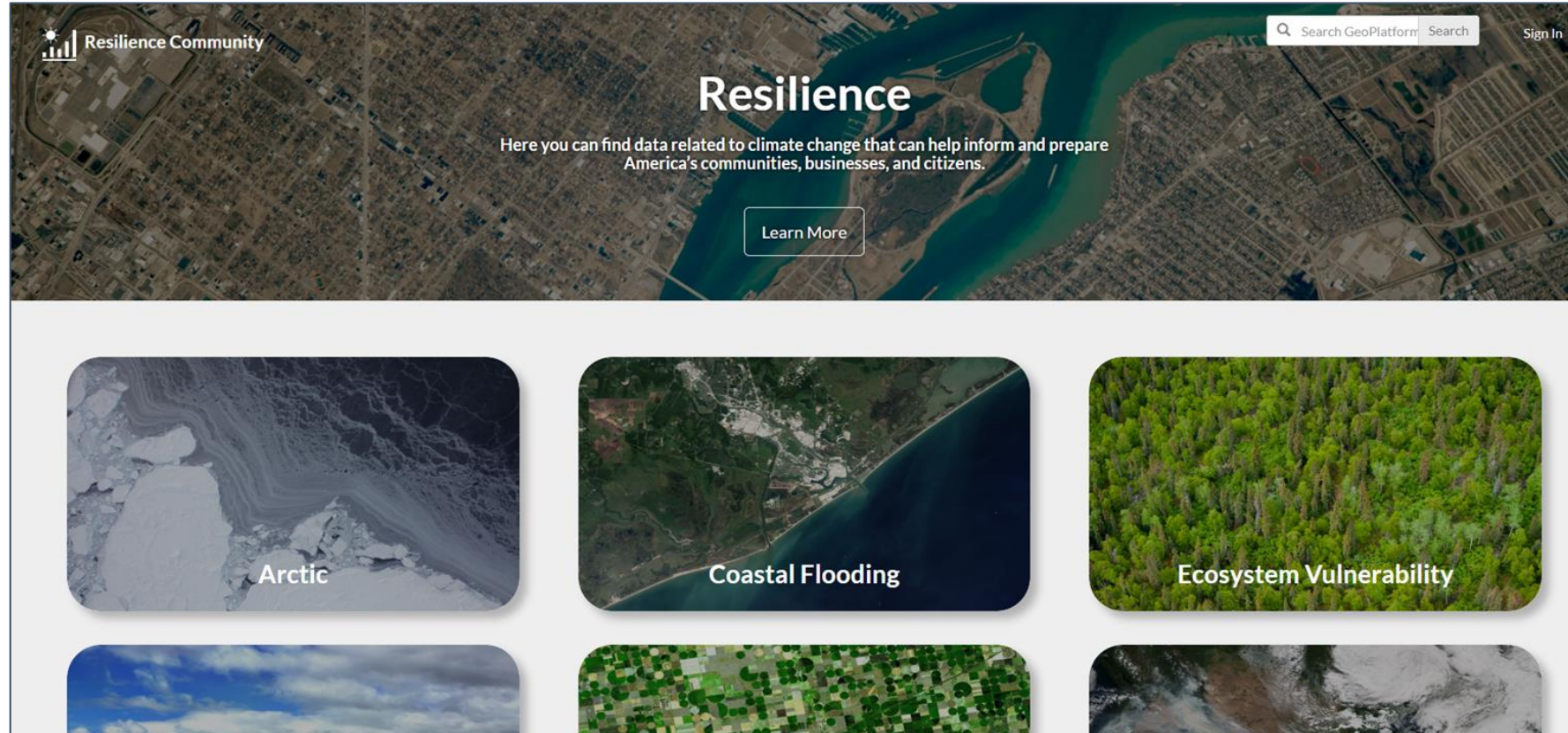
 **2**  
Galleries



# Resilience Community Website

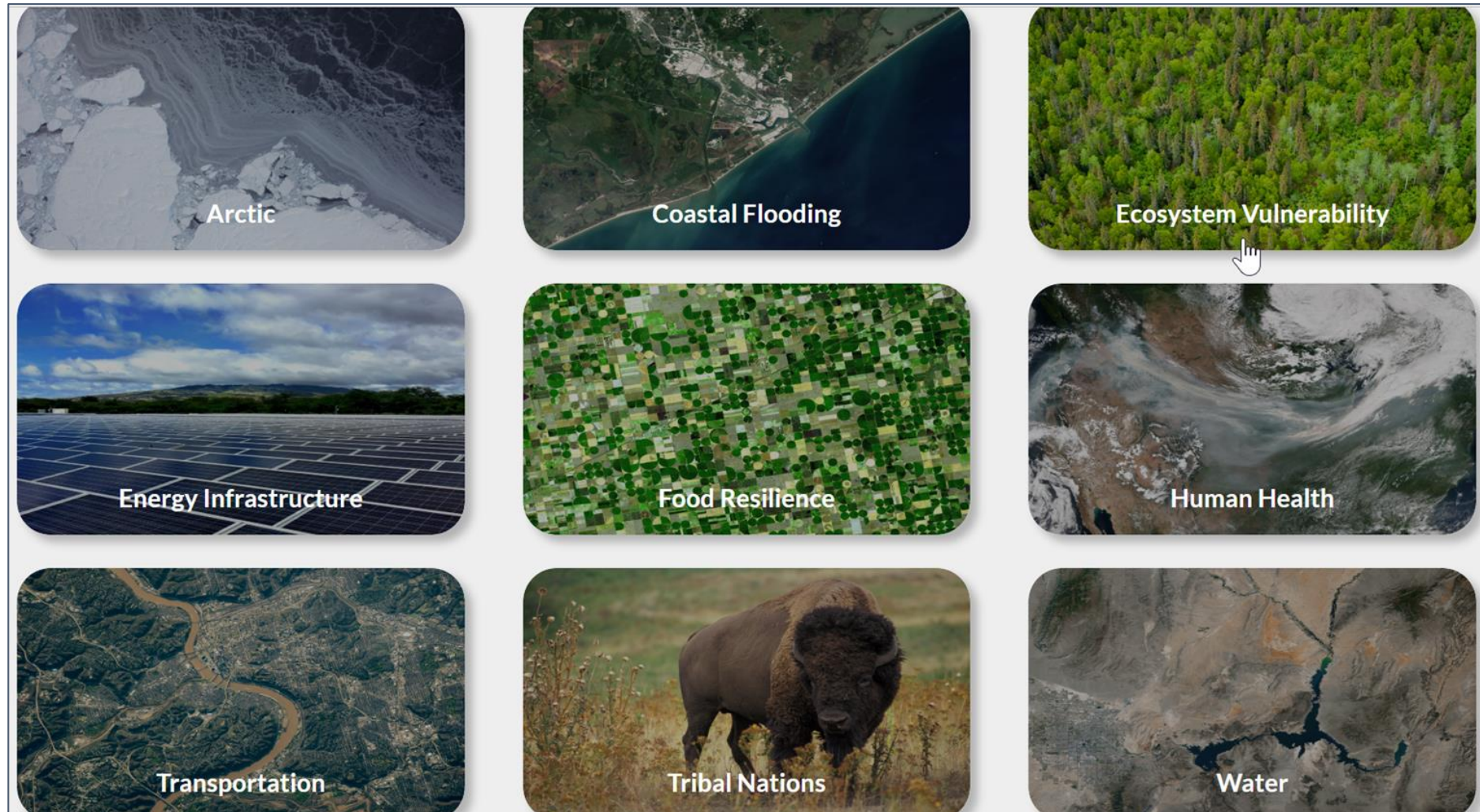
## Step 3:

Build a community web presence using WordPress





# Resilience Community Website: Homepage



Home page displays the 9 CDI thematic areas



# Resilience Community Website: Ecosystem Vulnerability Theme

Each theme has a landing page that links to further resources including tools, web content, maps, datasets & services




The screenshot shows the 'Ecosystem Vulnerability' landing page of the Resilience Community website. The header features the 'Resilience Community' logo and a search icon. The main title 'Ecosystem Vulnerability' is prominently displayed. Below the title, a text box explains that as climate changes, the biosphere becomes more susceptible to environmental change, disrupting natural ecosystem services and placing strain on natural resource management strategies. This text is attributed to 'Source: Chapter 7 of the Fourth National Climate Assessment'. Navigation buttons for 'MAPS', 'TOOLS', and 'CONTENT' are visible. A mouse cursor is hovering over the 'TOOLS' button. At the bottom, a paragraph discusses the importance of ecosystem services for life on Earth and the risks posed by climate change, also citing 'Source: Chapter 7 of the Fourth National Climate Assessment'. A small map titled 'Trends in First Leaf Dates' is partially visible in the bottom right corner.

Resilience Community


## Ecosystem Vulnerability


As climate continues to change, the biosphere is becoming more susceptible to environmental change. Those changes are disrupting natural ecosystem services, altering ecosystems, and placing strain on natural resource management strategies. As new and adaptive strategies are being formed in order to maintain ecological balance within ecosystems, many species and communities are altering their individual characteristics, their geographic ranges, and the timing of their natural biological events.

Source: Chapter 7 of the Fourth National Climate Assessment

**MAPS**  **TOOLS**  **CONTENT** 

Explore more Ecosystem Vulnerability resources here:

 **Datasets**

 **Services**

All life on Earth, including humans, depends on the services that ecosystems provide, including food and materials, protection from extreme events, improved quality of water and air, and a wide range of cultural and aesthetic values. Such services are lost or compromised when the ecosystems that provide them cease to function effectively. Healthy ecosystems have two primary components: the species that live within them, and the interactions among species and between species and their environment. Biodiversity and ecosystem services are intrinsically linked: biodiversity contributes to the processes that underpin ecosystem services; biodiversity can serve as an ecosystem service in and of itself (for example, genetic resources for drug development); and biodiversity constitutes an ecosystem good that is directly valued by humans (for example, appreciation for variety in its own right). Significant environmental change, such as climate change, poses risks to species, ecosystems, and the services that humans rely on. Consequently, identifying measures to minimize, cope with, or respond to the negative impacts of climate change is necessary to reduce biodiversity loss and to sustain ecosystem services (Source: Chapter 7 of the Fourth National Climate Assessment).

There are various changes happening in ecosystems, impacting plants, animals, and humans. Some of the most intense changes include changes in phenology or timing of biological events, changes in geographic range, and

Trends in First Leaf Dates

# Resilience Community Website: Ecosystem Vulnerability Theme Services

Clicking on 'Services' takes the user to a list of Resilience Community Services tagged with the 'Ecosystem Vulnerability' theme

Add Filters...

For information about the following filter options and how they can be used to refine search results, please visit the [Search Help Page](#).

Types

Communities

Creator

Geographic Extent

Keywords

Points of Contact

Publishers

Semantic Concepts

Temporal Extent

Themes

Current Filters

clear all

Types

Service

Communities

Resilience

Themes

Ecosystem Vulnerability

Portfolio


Site Content

44 results

10 per page

< 1 >

Relevance




Wetlands (WMS)

Service by Resilience Community Curator D | created Aug 25, 2017 | last modified Aug 20, 2019

Digital wetlands data are intended for use with base maps and digital aerial photography at a scale of 1:12,000 or smaller. Due to the scale, the primary intent is watershed data display and analysis, rather than specific project data analysis. The map products were neither designed nor intended to represent legal or

Find similar items




Wetlands (Map Server)

Service by Resilience Community Curator C | created Mar 9, 2017 | last modified Aug 20, 2019

US Fish and Wildlife Service Wetlands data. Due to the quantity and complexity of the wetlands data the wetlands only display at 1:250,000 scale and greater scales use the Wetlands\_Raster layer.

Find similar items




NCEI Arc GIS REST Services Directory

Service by laraduffy | created Jul 10, 2019 | last modified Jul 23, 2019

ArcGIS Server REST API for the dataset.

Find similar items




NOS Observations/CO OPS Products (Map Server)

Service by laraduffy | created Mar 9, 2017 | last modified Jun 7, 2019

The National Ocean Service's Center for Operational Oceanographic Products and Services (CO-OPS) Products map service contains the locations of pres



# Service Example

 **GeoPlatform.gov Performance Dashboard**

LMA Services Datasets Help Sig

**SERVICE: WETLANDS (MAPSERVER)**

Created by Resilience Community Curator C on Mar 9, 2017. Last modified on Aug 20, 2019.

ONLINE	COMPLIANT	LAST SCORE 99.25/100	TRENDING —	DAYS ONLINE 365 days	<a href="#">Test</a> Last updated: 9/3/2019 7:00:09 AM
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**DETAILS**[View in Object Editor](#)


US Fish and Wildlife Service Wetlands data. Due to the quantity and complexity of the wetlands data the wetlands only display at 1:250,000 scale and greater. For display of generalized wetlands data at smaller scales use the Wetlands\_Raster layer.

**Service Type:** Esri REST Map Service

**Service Url:** <https://www.fws.gov/wetlands/arcgis/rest/services/Wetlands/MapServer>

**Identifiers:** [ngp:91be8543-3528-4935-9b08-b3315f2e535b](#)

**URI:** <http://www.geoplatform.gov/id/service/8e03b30a2149b2267221eeb9de378a21>



**KEYWORDS**

DR4407 NGDA Surface water bogs Deepwater habitats marshes  
fens Hydrography Wetlands Swamps

**THEMES (7)**

[Biodiversity](#)  
[Water](#)  
[Ecosystem Vulnerability](#)  
[Water - Inland Theme](#)  
[Arctic](#)  
[Atmospheric, Earth and Ocean Sciences](#)  
[Land Cover and Land Use](#)

# Lessons Learned | Best Practices

## (1) Resources to consider for creating/maintaining a GeoPlatform Community:

<u>Role</u>	<u>Description</u>
Data Analysts/ Curators (2x)	<ul style="list-style-type: none"><li>● Maintains objects in GeoPlatform (makes sure datasets are up to date, ensures correct tagging of objects, metadata up to standard, etc.)</li><li>● WordPress maintenance (fixing hyperlinks, etc.)</li></ul>
Subject Matter Expert (SME) (optional)	<ul style="list-style-type: none"><li>● Serves as the authority for determining community website content<ul style="list-style-type: none"><li>○ In the case of the Resilience Community, SME's decided which datasets to include in the CDI</li></ul></li></ul>
Web Developer (optional)	<ul style="list-style-type: none"><li>● May be beneficial if a high level of customization is desired in WordPress</li></ul>

# Lessons Learned | Best Practices

## (2) Active participation in GeoPlatform updates

- GeoPlatform.gov undergoes quarterly updates
  - new widgets, plug-ins, features, bug fixes
- Important to participate in beta testing before each release to make sure your community content is working properly
  - Important to understand plugins used by your site in case they are affected by updates
  - Important to understand how new tools/plug-ins work so they can be integrated into your site
- GeoPlatform solicits feedback on new features & updates



# Lessons Learned | Best Practices

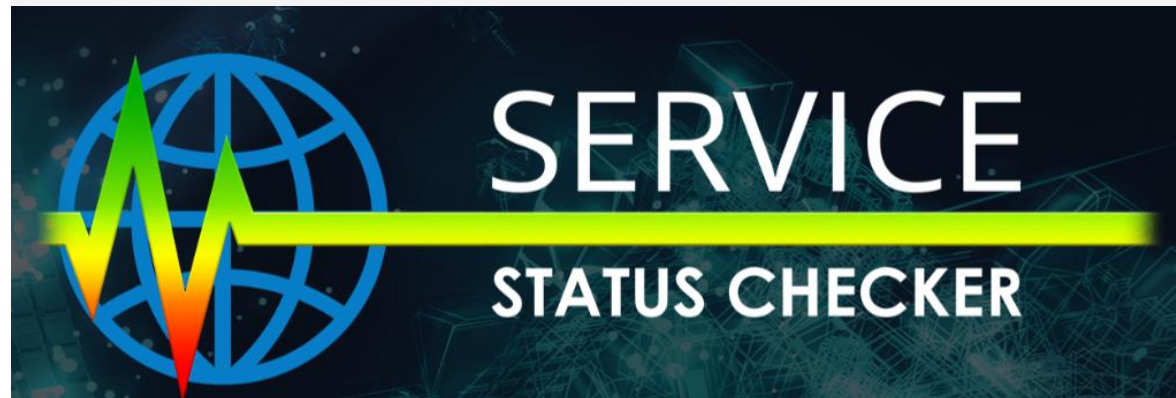
## (3) Utilize the FGDC Service Status Checker

GeoPlatform has a feature called the [Performance Dashboard](#), that tests all of the services registered to GeoPlatform.

- Driven by the [FGDC Service Status Checker](#); a web service used to test and validate geospatial web map services.

Currently unable to subset Resilience Community services in the Performance Dashboard

- **Solution: Recommend registering a service feed directly with the [FGDC Status Checker](#)**
- Create an [ATOM feed](#) with a master list of all of the services in your community





# Lessons Learned | Best Practices

## (4) Maintain an offline inventory of objects in your community

- GeoPlatform users/admins can update datasets in Object Editor
  - Tags can get accidentally dropped in the process
- GeoPlatform users may add community specific tags to objects outside of the community
  - E.g. Users can tag any object as 'Resilience Community' - this needs to be monitored
- Currently working with GeoPlatform to implement additional restrictions & improve tag maintenance



The offline inventory can be referred to in case content gets altered.

Thank you!

Questions?

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